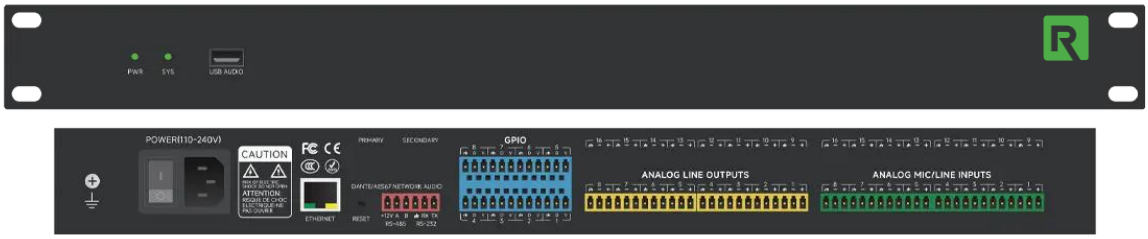
RESOUNDIFY

EchoPrime-88AEC

Audio DSP with & AEC/ANC Support 8X8, 4 AEC



PRODUCT OVERVIEW

The **Resoundify EchoPrime-**88AEC is a professional-grade Digital Signal Processor (DSP) designed for audio processing applications such as conferencing, broadcasting, and AV installations. It features an 8×8 matrix, meaning it supports 8 input and 8 output channels, allowing flexible routing and audio mixing capabilities. The unit is equipped with 4 channels of Acoustic Echo Cancellation (AEC), making it ideal for clear, echo-free communication in environments like meeting rooms and teleconferencing systems.

The EchoPrime-88AEC is an advanced, professional-grade audio DSP processor engineered for seamless integration in conference rooms, boardrooms, classrooms, and enterprise AV systems. With its 8×8 input/output configuration, it allows for powerful audio signal management, routing, and processing between multiple microphones, loudspeakers, and external audio sources.

KEY FEATURES

- **Professional SHARC DSP Core:** Harnesses the robust ADI SHARC architecture to deliver ultra-fast, high-precision audio processing with exceptional flexibility for complex audio designs.
- **High-Quality Audio Processing:** 24-bit/48kHz audio resolution ensures crystal-clear sound quality across all channels.
- **Intelligent Feedback Suppression:** Independent adaptive feedback suppression on each channel automatically eliminates unwanted noise.
- **Full-Duplex AEC & ANC:** Integrated Adaptive Echo Cancellation and Active Noise Cancellation for clear communication in conferencing environments.
- **Auto Mixer & Gain Control:** Built-in Gain Sharing Auto Mixer, Automatic Gain Control (AGC), and Audio Ducking (Ducker) for seamless level balancing.
- **Ambient Noise Compensation:** Real-time Ambient Noise Compensator (ANC) adjusts audio levels based on environmental sound.
- **Comprehensive Audio Matrix:** A flexible 8×8 audio matrix allows for routing, duplication, linking, grouping, and level control of all inputs and outputs with granular precision.
- **Expandable Control Options:** 8 configurable GPIOs (input/output/ADC), RS-232 & UDP support with assignable ports for central control systems.
- **Multi-Platform Compatibility:** Supports both iOS and Windows OS with dual USB audio interface for recording and conferencing.
- **Dual Power Support:** Operates on PoE or DC 12V for flexible power deployment.

APPLICATIONS

- Boardrooms
- Classrooms
- Auditorium

RESOUNDIFY

TECHNICAL SPECIFICATIONS

System Specifications

Processor	ADI SHARC 21489 x 2
Raw Processing Capacity	500 MIPS, 6 GFLOPS, 2 GMACS
Sampling Rate	48 kHz ± 100 ppm
Frequency Response (A/D/A)	20 Hz – 20 kHz ± 0.5 dB
Dynamic Range (A/D/A)	113 dB (A-weighted)
THD + Noise	< -95 dB (22.4 kHz BW, unweighted); 1 kHz @ +17 dBu, 0 dB gain
Channel Separation (A/D/A)	110 dB @ 1 kHz, +24 dBu
Latency (A/D/A)	<3 ms (input routed directly to output)
Delay Memory	174 mono seconds
Analog Control Inputs	0-3.3 VDC
Recommended External Control Potentiometer	10k Ohm, linear taper
Logic Outputs	Low (0 V) when active Pulled high (5 V) when inactive
Logic Output Maximum External Power Supply / Current Sinking	24 VDC / 50 mA
Logic Output Maximum Output Current	10 mA
RS-232 Accessory Serial I/O	57.6 kbps (default), 8 data bits, 1 stop bit, no parity, Straight-through wiring; pins 2, 3, 5 used
AEC Channel	4-bus AEC
Maximum Stored Presets	16 storable presets

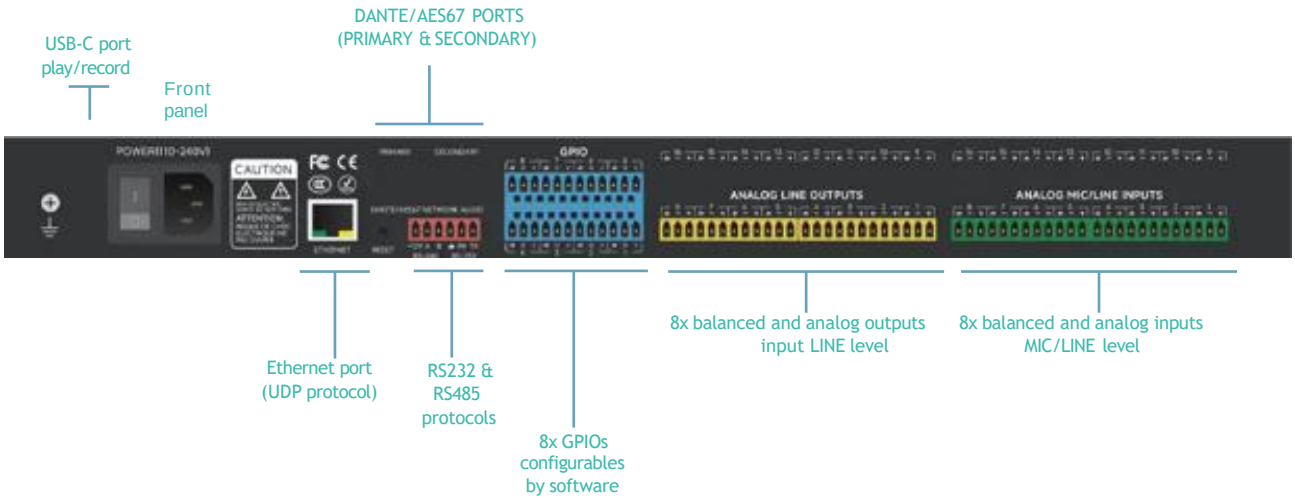
Analog Inputs and Outputs

Number of Analog Inputs	8 switchable balanced mic or line level
Analog Input and output Connectors	3.81 mm terminal blocks
Nominal Analog Input and output Level	+4 dBu with 20 dB headroom
Analog Input and output Maximum Level	+24 dBu (or +22.8 dBu into a 2k Ohm minimum load)
Analog Mic Pre-amp Gain	0 to 51 dB (in 3 dB steps) with ±24 dB digital trim
Analog Mic Pre-amp EIN	< -125 dB (with 150 Ohm source, 22.4 kHz BW)
Analog Input Impedance	2k Ohms balanced, 1k Ohms unbalanced
Analog Phantom Power (per input)	+48 VDC per input, max 10 mA
Analog Input Dynamic Range	>115 dB, A-weighted
Analog Input THD + Noise	<-100 dB (22.4 kHz BW, unweighted), 1 kHz @ +15 dBu, 0 dB gain
Analog Input Latency	1 ms
Number of Analog Outputs	8 balanced line level
Analog Output Impedance	300 Ohms balanced, 150 Ohms unbalanced
Analog Output Dynamic Range	117 dB, A-weighted
Analog Output THD + Noise	< -97 dB (22.4 kHz BW, unweighted); 1 kHz, 0 dB gain, +8 dBu output
Analog Output Latency	1.5 ms
Dimensions	482 x 260 x 45mm

AEC

AEC Number of Channels	4 Channels
AEC Tail Length	512 ms - suitable for medium rooms
AEC Convergence Rate	Typically > 90 dB/sec
AEC Latency	16 mS
AEC Processors	ADI SHARC 21489@450 MHz

Rear View



Control Software

AuriControl+ is our dedicated configuration software, available for free download from our official website. Designed with a user-friendly interface, it allows fine-tunusers to easily tailor the matrix settings to match the specific needs of any installation. With this software, you can e a wide range of parameters, including:

- Input gain
- Expander
- Compressor & Limiter
- Auto Gain Control (AGC)
- Equalizer
- Figure Balancer
- Active Noise Control (ANC)
- Feedback (AFC)
- Noise gate
- Ducker
- SPL
- Share AM (Automixer)
- Echo Canceller (AEC)
- Camera Tracking
- Noise Suppresion (ANS)
- Matrix
- Low & High Pass filters
- Delayer
- Output